

WIPP Status Update

Presented to
New Mexico Radioactive and Hazardous Materials Committee
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WIPP Team



U.S. Department of Energy Carlsbad Field Office

- Leads the Transuranic Waste Program
- Science Program



Washington TRU Solutions LLC

Washington TRU Solutions

- Manages and operates the WIPP facility
- Manages transportation logistics and packages
- Manages waste retrieval, characterization and certification



Los Alamos National Laboratory

- Scientific advisor for waste characterization
- Mobile loading



Sandia National Laboratories

- Scientific advisor for repository recertification



CBFO Technical Assistance Contractor

- Technical and Quality Assurance support for the Carlsbad Field Office



Ma-Chis Lower Creek Indian Tribe Enterprises, Inc. – TRANSCOM

- Satellite Tracking



Visionary Solutions

- Transportation carrier



Specialty Transportation, Inc.

CAST Specialty Transportation

- Transportation carrier

WIPP M&O Contract

- Announced on April 20, 2012
- Awarded to Nuclear Waste Partnership, LLC
 - (URS, B&W Technical Services Group and AREVA Federal Services)
- Five year base period and five year option period
- New contract set to begin in October 2012



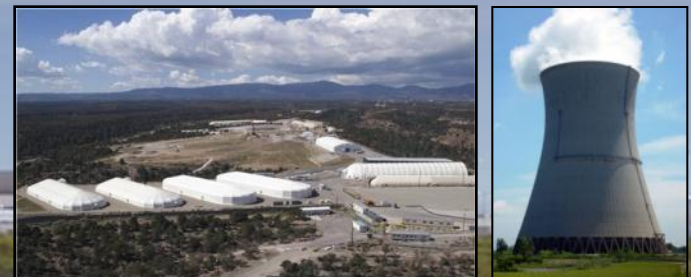
WIPP Workforce

- Diverse backgrounds

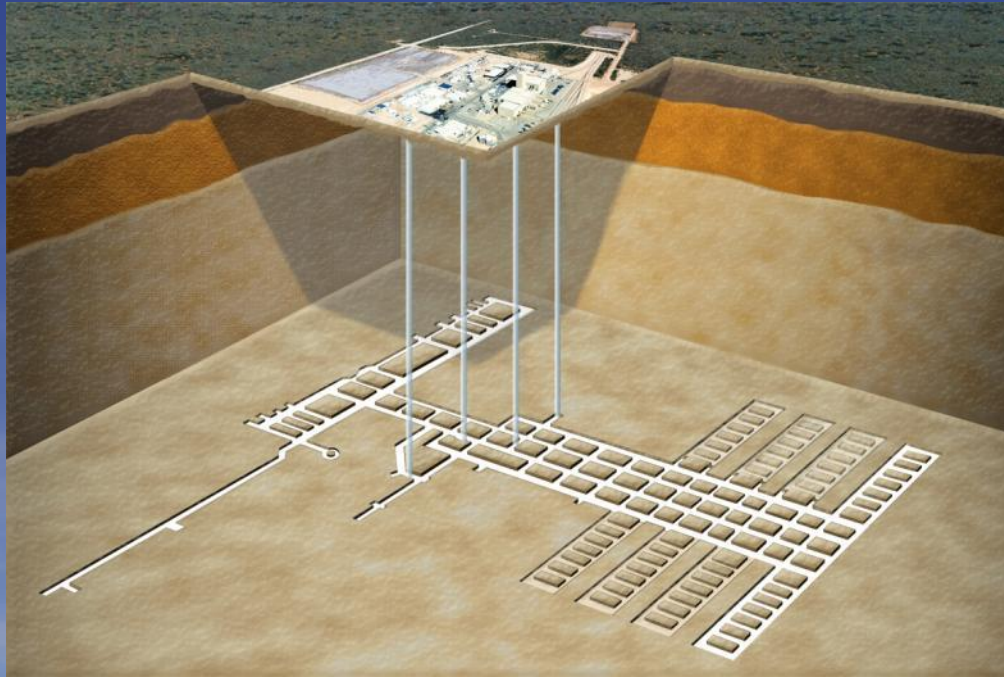
Including engineering, chemistry, geology, physics, safety, mining, emergency management, environmental management, security, training, accounting and nursing

- Broad experience from the nuclear industry

- Other DOE sites
- Nuclear power plants
- U.S. military



A national solution



- WIPP is America's only deep geologic repository for the permanent disposal of defense-generated transuranic (TRU) radioactive waste left from research and production of nuclear weapons.



TRU Waste



Includes clothing, tools, rags, debris, residues and other items contaminated with man-made radioactive elements that are heavier than uranium

Periodic Table of the Elements

H										He									
Li		Be		B		C		N		O		F		Ne					
Na		Mg		Al		Si		P		S		Cl		Ar					
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
Fr	Ra	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr			



Types of TRU waste

Contact-handled (CH)

- Primarily emits alpha radiation (less penetrating) and can be handled under controlled conditions without any shielding beyond the container itself
- About 96 percent of waste to be disposed at WIPP



CH waste is disposed in columns on the disposal room floor. Disposal began in March 1999.



Types of TRU waste *(continued)*

Remote-handled (RH)

- Emits more penetrating radiation than CH-TRU
- Transported and handled in certified casks that provide additional shielding
- About four percent of waste to be disposed at WIPP



RH waste is disposed in pre-drilled boreholes in the walls of the disposal room and sealed with a concrete shield plug. Disposal began in January 2007.



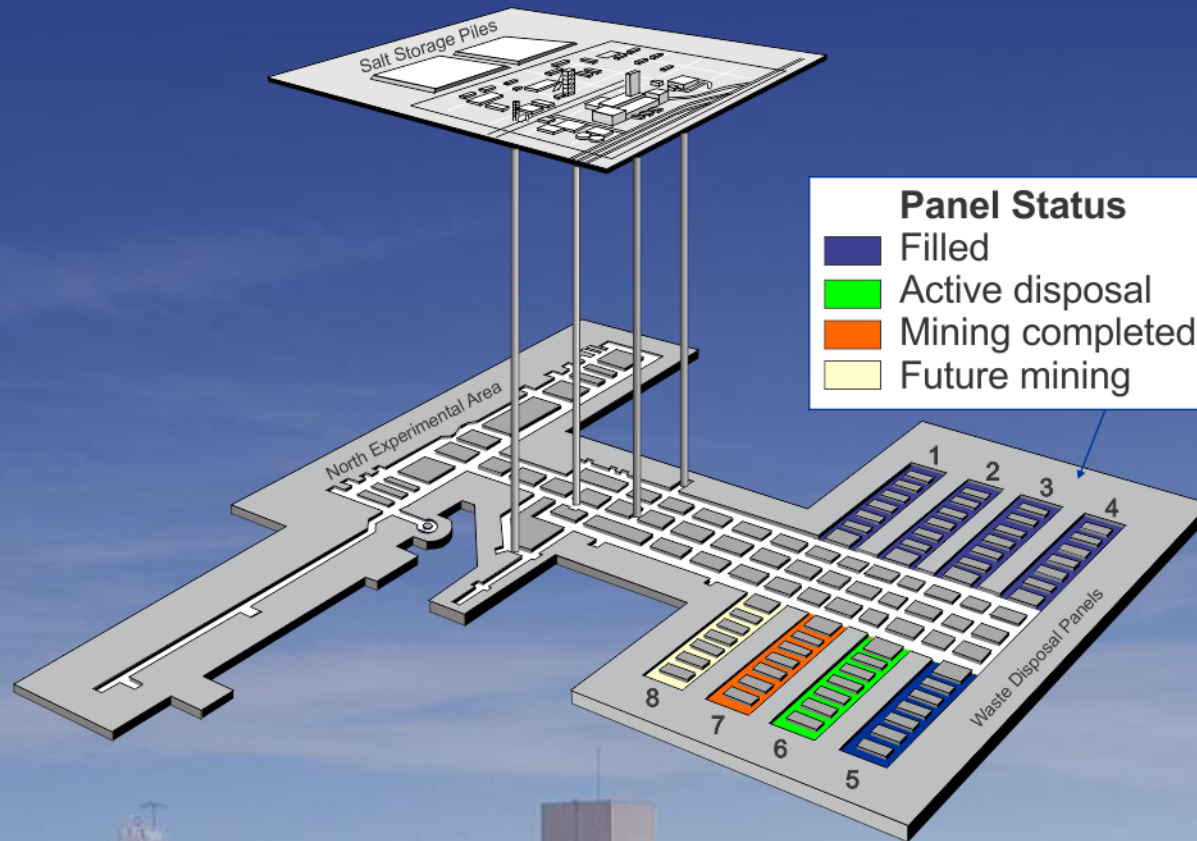
Salt is the reason for WIPP's location



- Stable geology
- Lack of water
- Easy to mine
- Plastic quality of salt allows it to close in on the waste



The Underground



WIPP Transportation System

“...The [WIPP transportation] system is safer than that employed for any other hazardous material in the U.S....”

*National Academy of Sciences,
WIPP Panel*



Safest shipping containers on the road



Nuclear Regulatory Commission certified

- TRUPACT-II
- TRUPACT-III
- HalfPACT
- RH-72B

Proven leak tight after rigorous testing

- 30-foot drop
- Puncture bar test
- 30 minutes in 1,475-degree jet fuel fire



Shipments tracked by satellite



Fully automated, nation-wide tracking

Five-minute updates

States and tribes have access to password-protected Web site

Drivers in constant communication with WIPP's Central Monitoring Room



Emergency responders trained along pre-approved routes



Since 1988, more than 31,000 first responders have been trained

- Exercises
- State, tribe and hospital personnel training
- Outreach



Safety

Recertified at the Star level in DOE's Voluntary Protection Program (maintained since 1994)

More than 12.8 million safe loaded miles traveled to WIPP

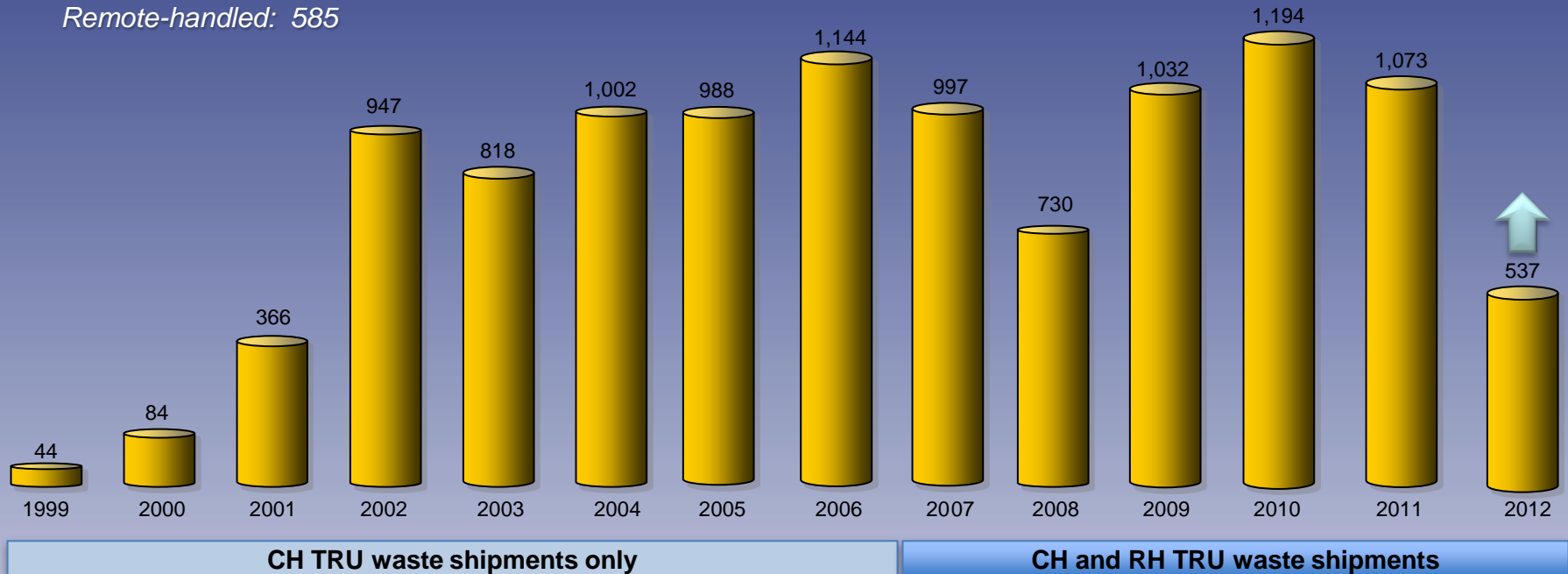


Shipments Summary

Shipments received
at WIPP as of today: 10,775

Contact-handled: 10,190

Remote-handled: 585



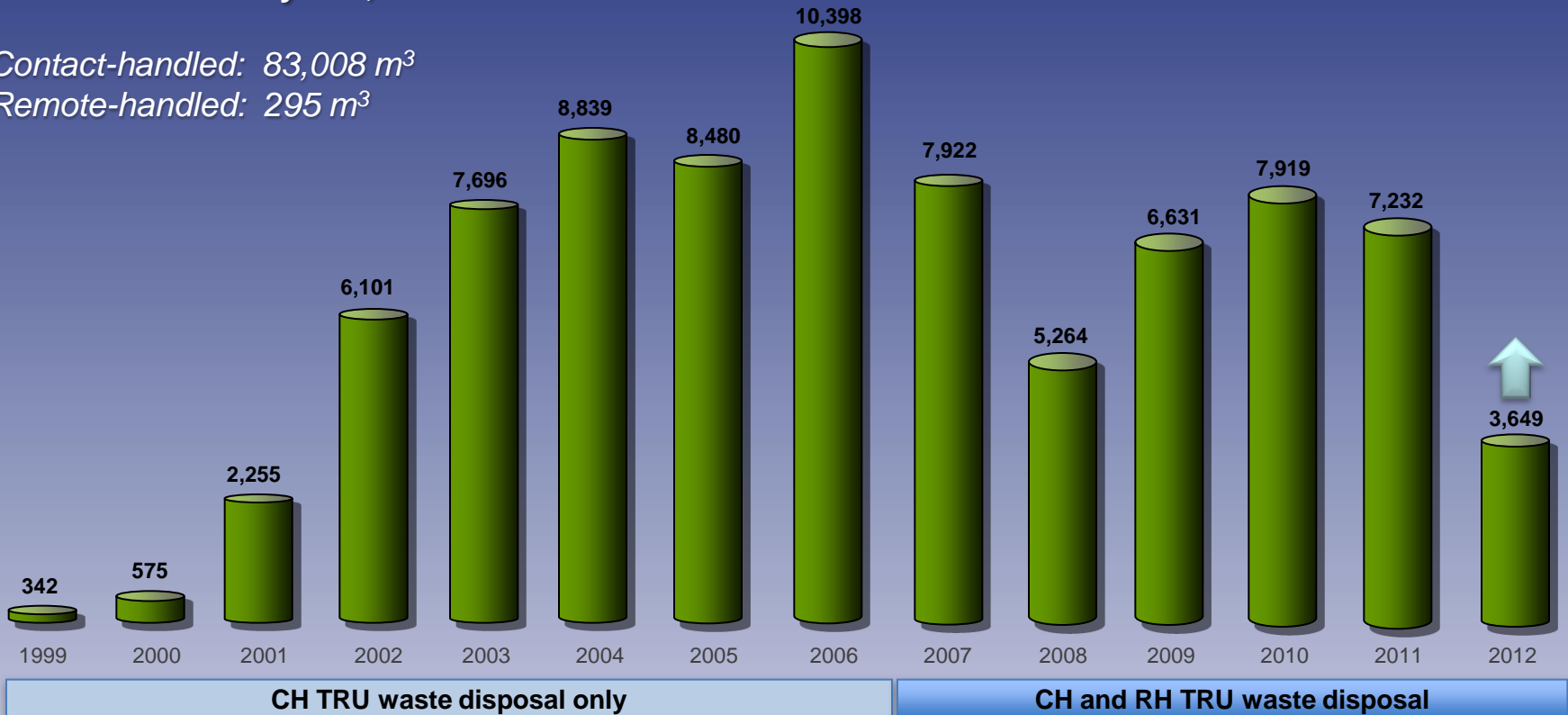
Total Shipments Received by Calendar Year
(Including intersite shipments)

Disposal Summary

Volume of waste disposed
at WIPP as of today: 83,303 m³

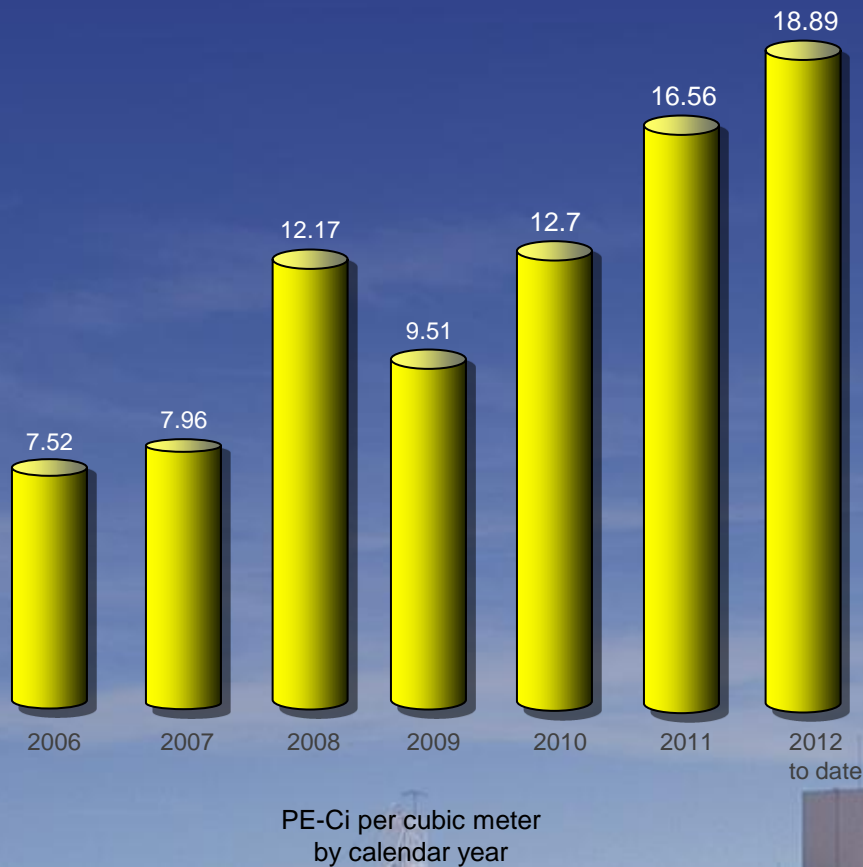
Contact-handled: 83,008 m³

Remote-handled: 295 m³



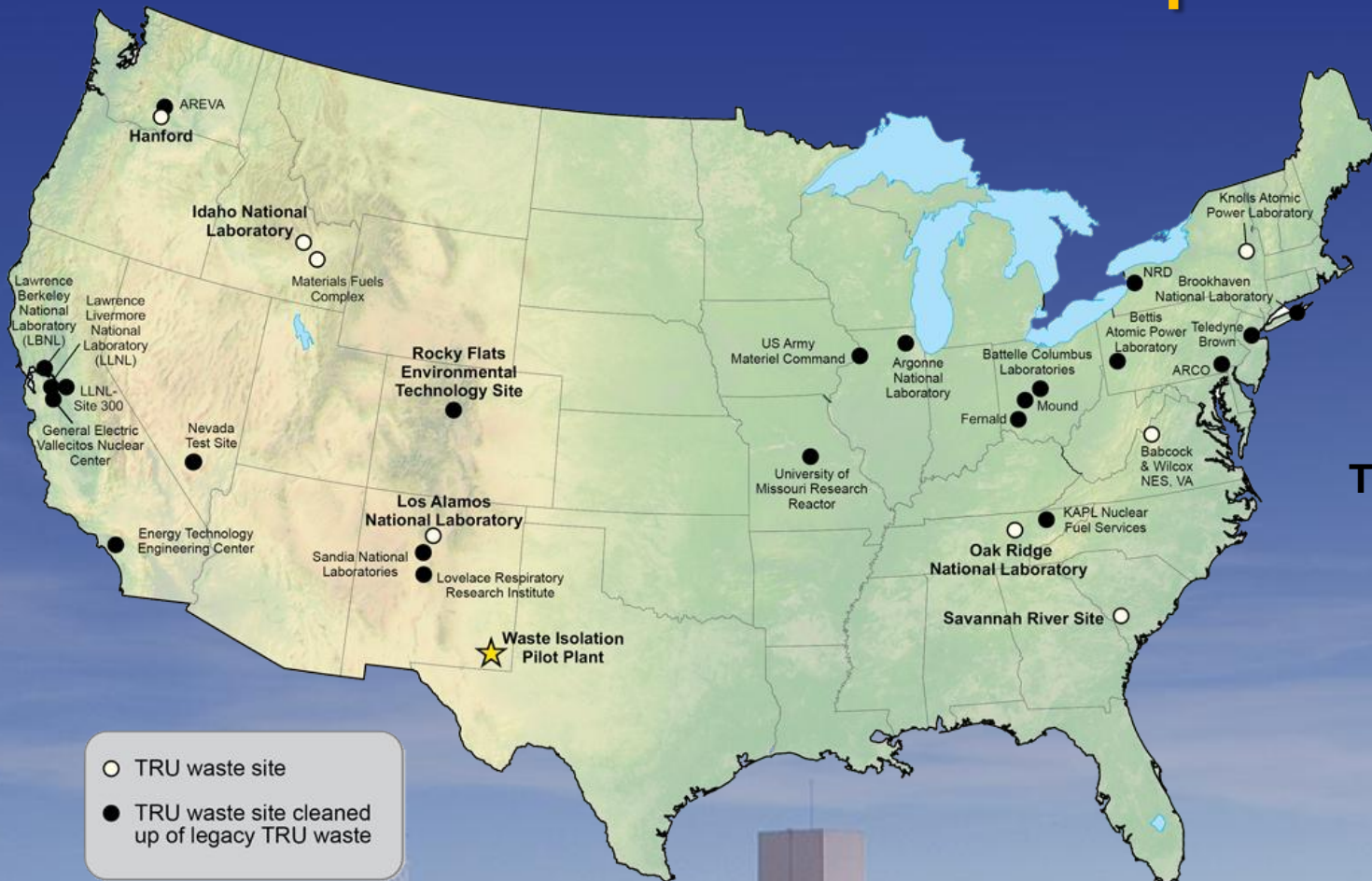
Waste Disposed by Calendar Year
(In cubic meters)

Primary factors impacting volume



- Plutonium-equivalent curies per cubic meter of waste emplaced
 - Higher in 2011 and 2012 than recent years
- Weight
 - WIPP shipments stay within Department of Transportation weight limitations
 - Idaho National Laboratory has higher ratio of heavier waste

National cleanup



Total number
TRU waste sites
cleaned up of
legacy TRU
to date:

22

Key Regulatory Success



Environmental Protection Agency

- Recertification every five years until closure
- Documents compliance with long-term disposal regulations
- WIPP recertified for the second time since opening on November 18, 2010



Hazardous Waste Facility Permit

- Required for disposal of TRU waste mixed with hazardous materials
- Original 10-year permit issued by New Mexico Environment Department in October 1999
- Permit renewed on November 30, 2010





Carlsbad Field Office allotted
\$172 million

Jobs created or saved

- WIPP target: 400
- Actual: 696

AMERICAN RECOVERY AND REINVESTMENT ACT



ARRA Accomplishments

Legacy TRU cleanup completed at eight sites

- Nevada Test Site
- Vallecitos Nuclear Center
- Lawrence Livermore National Laboratory – Site 300
- Lawrence Berkeley National Laboratory
- NRD
- Bettis Atomic Power Laboratory
- Argonne National Laboratory
- Sandia National Laboratories

Increased shipments from Los Alamos National Laboratory

- More than double from FY08 to FY10



ARRA Funds Position WIPP to Meet National Cleanup Goals

Completed construction activities

- Salt evaporation pond
- South Access Road

Major equipment purchases

- Horizontal Emplacement Machine
- Light Weight Facility Cask
- TRUPACT-III
- Underground load-haul-dump vehicle
- Two 13-ton forklifts
- Two trailer jockeys



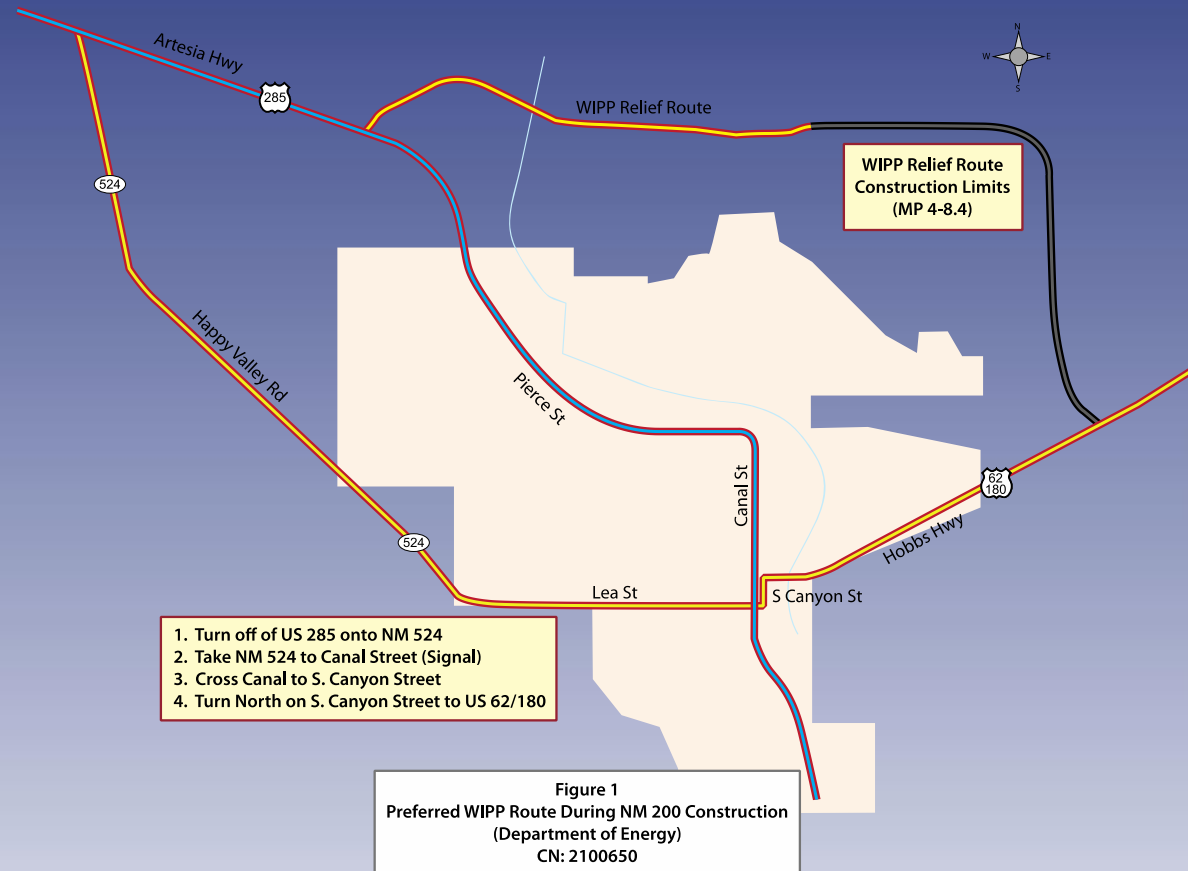
Additional New Mexico/Texas Route

- Sought and received approval from New Mexico and Texas
- Began using August 1, 2012
- Reduced mileage
- Continue to maintain original route
 - US 285 to US 62/180



Temporary Carlsbad Route

- WIPP relief route (NM 200) scheduled for resurfacing January – June 2013 resulting in road closure
- CBFO has submitted request to the NM State Transportation Commission to allow the use of NM 524 (approved truck route)



Looking Ahead

FY 2013 Budget

Accelerate cleanup of waste at Los Alamos National Laboratory

Keeping the pipeline full (funding)

WIPP facility must be maintained to continue cleanup mission for nation

Maintaining community support is key

Implementation of new M&O contract



New Mexico Radioactive and Hazardous Materials Committee

Questions

